Patent claims

1. Gasket having at least one metallic layer in which at least one gasket opening and at least one bead are formed, and in and/or adjacent to the bead a coating is applied as a deformation limiter, which comprises at least one filler and one bonding agent,
characterised in that
the mass proportion of the filler is greater than the proportion of bonding agent and the filler is present in particle form, the individual spherical particles having a small surface in relation to the volume of the particle.

2. Gasket according to claim 1, **characterised in that** the particles have a smoothed, rounded surface.

3. Gasket according to claim 1 or 2, **characterised in that** the particles are spherical.

4. Gasket according to one of claims 1 to 3, **characterised in that** at least 80% of the particles have an average grain size in the range between 5 and 100 µm.

5. Gasket according to one of claims 1 to 4, **characterised in that** the particles consist of a metal, an alloy, resin or ceramics or mixtures thereof.

6. Gasket according to claim 5, **characterised in that** the filler consists of a copper/tin alloy.

7. Gasket according to one of claims 1 to 6, **characterised in that** a mass ratio of filler to bonding agent of at least 2:1 is maintained.

8. Gasket according to one of claims 1 to 7, **characterised in that** the filler is contained in the coating (2) with a mass proportion ≥ 90%.

9. Gasket according to one of claims 1 to 8, **characterised in that** the bonding agent is a thermosetting material.

10. Gasket according to claim 9, **characterised in that** the thermosetting material is selected from epoxy resin, silicon resin and polyamide resin.

11. Gasket according to claim 9, **characterised in that** the thermosetting plastic is an epoxy resin based on bisphenol A.

12. Gasket according to one of claims 1 to 11, **characterised in that** at least one thermoplastic addition is also contained.

13. Gasket according to claim 12, **characterised in that** the addition(s) is(are) selected from PTFE, PE, PP and PA.

14. Gasket according to one of claims 1 to 13, **characterised in that** the coating (2) is applied in lines.

15. Gasket according to one of claims 1 to 14, **characterised in that** the coating (2) is applied in the form of a line of differing width and/or height and/or shape.

16. Gasket according to one of claims 1 to 15, **characterised in that** the coating (2) is applied to two facing sides of a metallic layer (1).

17. Gasket according to one of claims 1 to 16, **characterised in that** the coating (2) is applied on a metallic layer (4) in the region of a bead (3) of a second metallic layer (1).

18. Gasket according to one of claims 1 to 17, **characterised in that** the coating (2) is applied on two facing sides of a bead (3).

19. Gasket according to at least one of claims 1 to 18, **characterised in that** the coating (2) is arranged in a bead (3).

20. Gasket according to one of claims 1 to 19, **characterised in that** the surface of the coating (2) comprises substantially the bonding agent and/or a thermoplastic addition, or is provided with an additional sealing layer.

21. Method of manufacturing a gasket having at least one metallic layer, in which at least one gasket opening and at least one bead are formed, and in and/or adjacent to the bead a coating is applied as a deformation limiter,
characterised in that
a mixture containing at least one filler and one bonding agent is applied to a metallic layer (1, 4), the mass proportion of filler being greater than the proportion of bonding agent, and a filler in particle form is used, the individual particles of which have a small surface in relation to the volume of the particle; and the applied coating (2) is hardened.

22. Method according to claim 21, **characterised in that** the mixture is hardened by energy input.

23. Method according to claim 21 or 22, **characterised in that** a mixing ratio of filler to bonding agent is set with a mass proportion of at least 2:1.

24. Method according to one of claims 21 to 23, **characterised in that** at least one thermoplastic addition is also added to the mixture.

25. Method according to one of claims 21 to 24, **characterised in that** the mixture is printed onto the metallic layer (1, 4).

26. Method according to one of claims 21 to 25, **characterised in that** the mixture is hardened by means of heat treatment.

Add C3